



Alpha Magnetic  
Spectrometer NASA / DOE

# *Open Paper Management Tool Open Items Report*



National Aeronautics and  
Space Administration

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*Friday, February 22, 2008*

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## *Open Action Items Report*

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**Open Item Number:** 05-042

**RID Open Date:** 9/14/2005

**Title:** Helium Venting Hazard Analysis

**Initiator(s):**

**Description:** Provide hazard analysis for venting of helium from the main tank.

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### *Action Item Information*

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**Actionee(s):** Chris Tutt/ESCG

**Action Due Date:** 4/1/2007

**Action:** Take existing hazard analysis of helium venting presented to NASA and create stand-alone report for delivery to ESTEC.

**Action Status:** 2/22/2008 - Venting analysis spreadsheet up and running using predicted magnet performance numbers. Analysis of various venting scenarios will now be updated.  
12/16/2007 - Draft writeup under review by KSC safety. Art Nelson to pulse Tom Tinsler on status.  
11/20/2007 - Review of analysis identified error in SSPF calculation which significantly reduces potential hazards. Detailed analysis being prepared for submission to KSC and ESTC.  
8/24/2007 - Venting analysis confirms that directed vents will be needed for SSPF - analysis for ESTEC will be done next.  
8/9/2007 - Collaboration between SM and ESCG more clearly defined in telecon - answers should be available soon to support GOWG and ESTEC.  
11/20/06 - Date rolled to April 1st to better reflect need. Meeting at ESTEC planned for late April.  
8/14/06 - Date rolled to September 1st.  
6/5/06 - Necessary information received from SCL. In-work, C. Tutt.  
3/30/2006 - Date changed again as analyst is not becoming any faster.  
3/6/2006 - Date changed to 4/1 to account for slothful analyst.  
11/14/2006 - Date changed to 3/1 to better reflect analyst workloads.

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## *Open Action Items Report*

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***Open Item Number:*** 05-043

***RID Open Date:*** 9/14/2005

***Title:*** Helium Venting Hazard Analysis

***Initiator(s):***

***Description:*** Provide hazard analysis for venting of helium from the main tank.

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### *Action Item Information*

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***Actionee(s):*** Gaetan Piret/ESTEC

***Action Due Date:*** 5/1/2007

***Action:*** Upon delivery of hazard analysis described in 05-042, evaluate potential hazards to EMI and TV test chambers.

***Action Status:*** 2/20/2008 - Initial analysis presented to ESTEC on 29 Jan. More detailed analysis for the two test chambers and the clean room is the process of being written up.

11/20/06 - Date rolled to May 1st to roll with 05-042.

8/14/06 - Date rolled to October 1st.

4/10/06 - Due date changed to 6/1/06 allow time after completion of 05-042.

11/12/2005 - Date changed to 4/1/2006 to match item 05-042.

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## *Open Action Items Report*

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**Open Item Number:** 05-074

**RID Open Date:** 10/28/2005

**Title:** CGSE Support at Pad

**Initiator(s):** Trent Martin

**Description:** *It is not clear how the cryogenic GSE, particularly the piping, will be supported at the pad.*

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### *Action Item Information*

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**Actionee(s):** Robert Becker/MIT, Alexander Gretchko/MIT

**Action Due Date:** 10/25/2007

**Action:** *Provide details on how the GSE will be supported at the pad.*

**Action Status:** 12/16/2007 - Pump layout comments received from Pete Reutt. New proposals under work in Shanghai to accommodate suggestions.

10/24/2007 - New layouts proposed at GOWG - New drawings/layouts in work in Shanghai.

6/4/2007 - Ken Bollweg and Mike Capell to work with Alexander Grechko to resolve file transfer problems.

11/27/06 - J. Keiffenheim reports that space is available for hanging plumbing, and KSC can design, manufacture hanging hardware. Still have concerns regarding fill port plumbing suspension, so will keep open.

10/16/06 - Date rolled to 11/15 after Cryo GSE meeting at KSC.

6/26/2006 - Date rolled to October 15th after Magnet Processing meeting at KSC.

5/15/2006 - Further discussion on handling of CGSE after PLBD close prelaunch is required.

3/24/2006 - Trent Martin to forward all data provided by KSC to Art Nelson for inclusion in ground safety package.

2/14/2006 - Alexander Gretchko waiting on information from KSC - Trent Martin to coordinate.

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## *Open Action Items Report*

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**Open Item Number:** 07-008

**RID Open Date:** 6/14/2007

**Title:** *DDRS Rapid Safing*

**Intiator(s):** *Chris Tutt*

**Description:** *DDRS must meet rapid safing requirements described in MA2-96-190.*

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### *Action Item Information*

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**Actionee(s):** *Tim Urban/ESCG*

**Action Due Date:** 9/10/2007

**Action:** *Gain concurrence from NASA that DDRS meets rapid safing requirements.*

**Action Status:** *2/22/2008 - Phyllis Grounds assigned as new Shuttle MIM - will be working this issue along with other MIP-related items.*

*11/30/2007 - Question refered to Frank Moreno/MO to check with Shuttle safety.*

*9/28/2007 - Joel Sills/MO researching requirements and trying to identify appropriate points of contact within SSP.*

*6/15/2007 - Tim Urban to investigate who approves IVA rapid safing and find out what they want to see to close issue.*

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## *Open Action Items Report*

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***Open Item Number:*** 07-016

***RID Open Date:*** 7/31/2007

***Title:*** Static Test Approval

***Intiator(s):*** Chris Tutt

***Description:*** SWG is withholding approval of the AMS-02 Static Test

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### *Action Item Information*

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***Actionee(s):*** Chris Tutt/ESCG, Carl Lauritzen/ESCG

***Action Due Date:*** 9/1/2007

***Action:*** Meet with SWG to review memo describing static test design principles and determine what additonal information, if any, is needed for their approval.

***Action Status:*** 1/23/2008 - Analysis memo provided to SWG for review.

9/27/2007 - Paul Romine has asked to see initial test correlation results before issuing final opinion. Quick correlation in work and will be written up as stand-alone memo.

8/17/2007 - Meeting held on 8/15/2007. Basic static test design concept accepted by SWG, but Paul Romine to review detailed writeup and issue final approval.

8/9/2007 - Chris Tutt to pulse Lance Mushung and Paul Romine for status.

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## *Open Action Items Report*

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**Open Item Number:** 07-025

**RID Open Date:** 11/5/2007

**Title:** Vacuum Pump Monitoring

**Intiator(s):** Jack Keifenheim

**Description:** Determine ground and on-board vacuum pump monitoring requirements at pad.

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### *Action Item Information*

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**Actionee(s):** Trent Martin/JSC, Mike Capell/MIT

**Action Due Date:** 6/15/2008

**Action:** Determine what information needs to be monitored on the vacuum pumps during all ground processing scenarios. In particular, determine what monitoring is required during S0024 and the pad clears, and whether 24/7 monitoring is required.

**Action Status:** 12/16/2007 - Issues to be investigate during CGSE shakedown at CERN. Action date rolled to delivery + 3 weeks (~mid-June).

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## *Open Action Items Report*

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***Open Item Number:*** 07-027

***RID Open Date:***

***Title:*** Emergency Vent Lines

***Intiator(s):*** Jack Keifenheim

***Description:*** Provide final decision on need for emergency vent lines in SSPF, CRF, Canister, and/or PCR.

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### *Action Item Information*

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***Actionee(s):*** Leland Hill/ESCG

***Action Due Date:***

***Action:*** Provide initial hazard report and ground safety writeup on potential credible venting scenarios during KSC operations to GSRP for review.

***Action Status:*** 1/18/2008 - Actionee changed to Leland Hill.  
12/16/2007 - Draft writeup under review by KSC safety.  
11/9/2007 - Draft writeup under review by ESCG.



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## *Open Action Items Report*

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***Open Item Number:*** 07-028

***RID Open Date:*** 11/5/2007

***Title:*** Hurricane Scenario

***Intiator(s):*** Jack Keifenheim

***Description:*** Develop hurricane ride-out scenario for AMS-02.

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### *Action Item Information*

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***Actionee(s):*** Trent Martin/JSC

***Action Due Date:***

***Action:*** Provide preliminary plan for keeping AMS-02 safe and functional during a potential hurricane.

***Action Status:*** 2/20/2008 - Venting analysis tool completed and undergoing final checkout. Scenario assessments will begin shortly.

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## *Open Action Items Report*

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**Open Item Number:** 07-031

**RID Open Date:** 11/5/2007

**Title:** Cryo Launch Delay Capability

**Intiator(s):** Jack Keifenheim

**Description:** Assess what infrastructure and procedures are required to support potential launch delays of up to 120 hours.

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### *Action Item Information*

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**Actionee(s):** Stephen Harrison/SM, Chris Tutt/ESCG

**Action Due Date:**

**Action:** Assess the potential states and launch readiness of the cryosystem up to 120 hours after first T-0.

**Action Status:** 2/20/2008 - Venting analysis tool completed and undergoing final checkout. Scenario assessments will begin shortly.

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## *Open Action Items Report*

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*Open Item Number:* 07-033

*RID Open Date:* 11/5/2007

*Title:* OPF Testing

*Intiator(s):* Jack Keifenheim

*Description:* Provide details on proposed OPF testing.

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### *Action Item Information*

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*Actionee(s):* Tim Urban/ESCG

*Action Due Date:* 1/15/2008

*Action:* Provide details on facility requirements for all proposed OPF tests.

*Action Status:* 12/16/2007 - Date set to 15 Jan.

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## *Open Action Items Report*

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**Open Item Number:** 07-036

**RID Open Date:** 1/11/2008

**Title:** Cryosystem Response to Power Flickers

**Initiator(s):** Chris Tutt

**Description:** Effects of possible power losses at KSC need to be considered in the cryosystem safety analyses.

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### *Action Item Information*

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**Actionee(s):** Tim Urban/ESCG

**Action Due Date:** 6/1/2008

**Action:** Need details on the default state of the AMS-02 and an estimate of how long it would take to return to the standard ground operational condition.

**Action Status:** 1/11/2008 - Initial review of default state is being rolled into safety analysis. Initial review of time to return to nominal ops indicates this should not be a concern as long as commanding is still available. More detailed review will be done with appropriate collaboration personnel at a later date.

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## *Open Action Items Report*

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**Open Item Number:** AMS\_02-PDS\_CDR-06

**RID Open Date:** 4/18/2005

**Title:**

**Initiator(s):** Tim Urban

**Description:**

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### *Action Item Information*

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**Actionee(s):** Marco Molina

**Action Due Date:** 12/1/2007

**Action:** Re-evaluate thermal optical properties on the top of the PDS as there are no longer heaters located there (breakdown of MLI vs. white paint). QM & FM different ?

**Action Status:** 3/26/2007 - Work has restarted - ECD on this question 4/15.  
2/5/2007 - ASI budget approved; some movement on contract. Dates rolled to 3/5/07.  
8/28/06 - Contract still in work. Work-around by using EM for initial testing. Roll date to 10/5.  
7/7/06 - Investigate contract status at July TIM.  
5/08/2006 - Contract to be in place by June; roll date to 7/1/06  
4/10/06 - On-hold pending resolution of ETH/CGS contract.  
8/2/2005 - Awaiting thermal analysis of revised worst hot case.

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## *Open Action Items Report*

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**Open Item Number:** AMS\_02-PDS\_CDR-08

**RID Open Date:** 4/18/2005

**Title:**

**Initiator(s):** Tim Urban

**Description:**

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### *Action Item Information*

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**Actionee(s):** S. Alia

**Action Due Date:** 12/1/2007

**Action:** Add 0.03  $\mu$ F per 3.2.2.2.2.A of SSP 57003, and add verification by design inspection or test.

**Action Status:** 3/26/2007 - Updated reports to be released at PDS MRR in December.  
2/5/2007 - ASI budget approved; some movement on contract. Dates rolled to 3/5/07.  
8/28/06 - Contract still in work. Work-around by using EM for initial testing. Roll date to 10/5.  
5/08/2006 - Contract to be in place by June; roll date to 7/1/06  
4/10/06 - On-hold pending resolution of ETH/CGS contract.  
11/7/2005 - All further PDS activities on hold until 6 Feb 2006.  
8/22/2005 - CGS proposes release of updated document by 9/19.  
8/15/2005 - Tim Urban to contact Sergio Alia and resolve remaining concerns. Closure expected by 9/5.

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## *Open Action Items Report*

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**Open Item Number:** AMS\_02-PDS\_CDR-09-2

**RID Open Date:** 4/18/2005

**Title:**

**Initiator(s):** Tim Urban

**Description:**

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### *Action Item Information*

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**Actionee(s):** S. Alia

**Action Due Date:** 12/1/2007

**Action:** Update document for maximum operating temperature of 51°C (Section 3.2, requirement ID PDS-ENV-3).

**Action Status:** 2/5/2007 - ASI budget approved; some movement on contract. Dates rolled to 3/5/07.  
8/28/06 - Contract still in work. Work-around by using EM for initial testing. Roll date to 10/5.  
5/08/2006 - Contract to be in place by June; roll date to 7/1/06  
4/10/06 - On-hold pending resolution of ETH/CGS contract.  
11/7/2005 - All further PDS activities on hold until 6 Feb 2006.  
8/22/2005 - CGS proposes release of updated document by 9/19.  
8/2/2005 - MOT should be changed to match updated worst case hot temperature.